

### **REMARKS**

Claims 2-26 are pending in the present application. Claims 12-24 are withdrawn as being drawn to a non-elected invention. Claims 2-4 are amended to better clarify the claims. Claims 2-6, 8 and 11 are amended to change dependency from claim 1 to claim 25. Claims 25-26 are new. Support for new claim 26 is found on page 10 at lines 2-5 in the specification as filed. Support for new claim 25 is found implicitly on page 10 at paragraph 1 and on page 7 at paragraph 3 in the specification as filed. According to the MPEP at 2163.02, the subject matter of a claim need not be described literally (*i.e.* using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. Accordingly, no new matter is entered by way of the above amendments.

### **Issues Under 35 U.S.C. § 102(b)**

Claims 1-7 and 11 are rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 5,595,890 to Newton *et al.* ('890). Applicants respectfully traverse.

Independent claim 25 is drawn to a method for detecting a single nucleotide polymorphism, comprising designing two allele-specific primers; wherein a first primer contains an artificial mismatch nucleotide and a nucleotide complementary to a first allele and a second primer contains an artificial mismatch nucleotide and a nucleotide complementary to a second allele, said primers able to distinguish said alleles; wherein the artificial mismatch nucleotide in the first primer is different from the artificial mismatch nucleotide in the second primer, amplifying a sample with said first and second primers, wherein an amount of amplification product from said first primer and an amount of amplification product from said second primer is substantially the same when the two alleles are present in the sample.

In contrast, the '890 reference discloses a method for detecting a variant nucleotide in a nucleic acid by using a diagnostic primer. The diagnostic primer is complementary to a diagnostic portion of the target nucleic acid suspected to contain a variant nucleotide. The terminal nucleotide of the diagnostic primer is either 1) complementary to the suspected variant nucleotide or 2) complementary to the corresponding normal nucleotide. The extension product and subsequent amplification product of the diagnostic primer is synthesized when the terminal nucleotide of the diagnostic primer is complementary to the corresponding nucleotide in the target nucleotide sequence. No extension product or subsequent amplification product is synthesized when the terminal nucleotide of the diagnostic primer is not complementary to the corresponding nucleotide in the target nucleotide sequence. Thus, the '890 reference fails to disclose all of the elements of claim 25.

In order for the claims to be anticipated, each and every element of the claims must be inherently or expressly disclosed in a single reference. Because the '890 reference does not disclose the element of designing a primer in order for the amounts of amplification products resulting from each allele-specific primer to be substantially similar, and specifically does not disclose designing primers "able to distinguish said alleles; wherein a first primer contains an artificial mismatch nucleotide and a nucleotide complementary to a first allele and a second primer contains an artificial mismatch nucleotide and a nucleotide complementary to a second allele, wherein the artificial mismatch nucleotide in the first primer is different from the artificial mismatch nucleotide in the second primer", the '890 reference does not anticipate claim 25.

Likewise, claims 2-7 and 11, which depend from claim 25 are also allowable, at least by virtue of dependency. Claim 1 is canceled. Accordingly, Applicants respectfully request the rejection be reconsidered and withdrawn.

**Issues under 35 USC 103(a)***Claims 8-9*

Claims 8 and 9 are rejected under 35 USC 103(a) as being unpatentable over the '890 reference in view of Durward *et al.* (1998). Applicants respectfully traverse.

In order to establish a *prima facie* case of obviousness each and every element of the claims must be taught or suggested in the combined references. As described above, the '890 reference does not disclose, teach or suggest the element of designing primers "able to distinguish said alleles; wherein a first primer contains an artificial mismatch nucleotide and a nucleotide complementary to a first allele and a second primer contains an artificial mismatch nucleotide and a nucleotide complementary to a second allele, wherein the artificial mismatch nucleotide in the first primer is different from the artificial mismatch nucleotide in the second primer." Likewise, the Durward *et al.* reference does not disclose, teach or suggest this feature. Because claims 8 and 9 incorporate the features of claim 25, each and every element of claims 8 and 9 is not disclosed in the combined references. Therefore, claims 8 and 9 are not obvious over the '890 reference in view of Durward *et al.* Accordingly, Applicants respectfully request the rejection be reconsidered and withdrawn.

*Claim 10*

Claim 10 is rejected under 35 USC 103(a) as unpatentable over the '890 reference in view of Durward *et al.* (1998) and further in view of US Patent 5,935, 520 to Fujisaki *et al.* ('520). Applicants respectfully traverse.

Claim 10 is dependent on claim 25 and, therefore incorporates the features of claim 25 including designing primers “able to distinguish said alleles; wherein a first primer contains an artificial mismatch nucleotide and a nucleotide complementary to a first allele and a second primer contains an artificial mismatch nucleotide and a nucleotide complementary to a second allele, wherein the artificial mismatch nucleotide in the first primer is different from the artificial mismatch nucleotide in the second primer.” As discussed above, neither the ‘890 reference nor Durward *et al.* teach or suggest this element. Likewise, the ‘520 reference does not disclose this element. Because each and every element of claim 10 is not disclosed in the combined references, claim 10 is not obvious over the ‘890 reference in view of Durward *et al.* and further in view of ‘520. Accordingly, Applicants respectfully request the rejection be reconsidered and withdrawn.

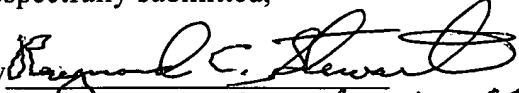
In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Linda T. Parker, Ph.D. Reg. No. 46,046 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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